

REMARKS

The claims under examination are 11-16 (all method claims) the remaining claims (apparatus claims) having been withdrawn from consideration as the result of a restriction requirement.

The rejection under 35 USC § 112, first paragraph

The rejection on the ground of lack of "written description" is respectfully traversed. The term "cooling fluid" has adequate support as note, inter alia, page 10, lines 11, 16, 17 and 18. Note further page 6, lines 18-21, which sets forth " ... a fluid medium on the reactor wall surface facing a way from the reactor space [which] takes up the heat of reaction and carries it away." This can only mean a "cooling fluid" is present.

The rejections over prior art

The claims stand rejected under 35 USC §§ 102(b) and 103 (a) over Arganbright et al. (US 4,950,834) (hereinafter '834). However '834 describes a process completely different from applicants' invention as follows:¹

¹ The arguments of record are incorporated here by reference.

First the feed through '834's reactor is formed by two different feed streams, i.e.,

1. first feed stream containing propylene, which is fed at a point below a bed of Omega molecular sieve catalyst prepared as distillation structure and
2. a second feed stream of benzene at a point above bed of Omega molecular sieve catalyst (see claim 1 and figures 1 and 2).

In the present invention, the feed (line 7) through the reactor (1) is a disperse reaction fluid obtained in a dispersing element (6) for dispersing a gas phase in a liquid phase to generate that reaction fluid (see claim 1 and figures 1 and 2). Moreover, as clearly defined in claim 1, lines 21 to 27, the feed line (7) which routes the reaction fluid from the dispersing element (6) to the reactor inlet (31, 41) has to be sufficiently short so that of the degree of the dispersion of the reaction fluid does not substantially change in the course of the passage through the feed line, now in claim 11.

While the description of '834 is silent about the physical state of the two feed streams (a) propylene and (b) benzene it clearly says, that two components are added separately (see column 3, lines 1 to 5). The document does not disclose any dispersing element for generating a reaction fluid of a liquid phase with a gas phase dispersed therein.

Second, reactor of '834 definitely contains as catalyst molecular sieves, namely a first bed of Omega molecular sieve catalyst in the upper portion of the reactor the second bed of agric type sieves in the lower part of the reactor. The description explains what molecular sieves are and what the difference says between the different types, for example the agric and Omega type of molecular sieves are (see specification , column 3, line 65 to column 4, line 28).

It is true, that the molecular sieves may be employed by enclosing them fro example in a screen wire (see column 5, lines 20 to 22). In the screen wire may be an open mesh knitted stainless wire, known generally as demister wire (see column 5, lines 55 to 57). A screen wire has the function of a spacing component which will act to space apart the catalyst components, that is that molecular sieves.

On the contrary, the present invention proposed the use of a catalyst-coated metal fabric, which may be for example woven or knitted (see claim 11).

While US'834 disclose the use of knitted stainless wire, the stainless wire has the function of a space component the space apart catalyst components which necessarily are molecular sieves. This is completely different from a catalyst is the form of a coating according to the present invention.

It is thus apparent that every element of claimed invention is not met by the reference, as is required for anticipation (i.e. lack of novelty) under 35 USC 102. Cf. *Hybritech Inc. v. monoclonal Antibodies, Inc.*, 802 F.2d 1367, 231 USPQ 81, 90 (fed. Cir. 1986), *cert. denied*, 480 U.S. 947 (1987). Novelty is clearly present in the instant invention for the reasons discussed.

Moreover, the reference does not make out the necessary prima facie case for obviousness. Lacking is the *motivation* in the prior art to modify the prior methods so as to come up with applicants solution. It is again noted that, among other things, the prior art does not feed the dispersed reaction fluid to the reactor "without substantial change in the degree of the dispersion of [the] reaction fluid."

Further, even assuming (arguendo) a prima facie case is made, the results obtained would provide evidence of nonobviousness. As noted, inter alia, at page 4, lines 17-27 of the specification:


The reactor of the invention is designed for maintaining a high but uniform shearing stress on the reaction fluid. On the one hand, it will withstand a high cross-sectional flow velocity without attrition of the catalyst. On the other, the reaction fluid is exposed to a uniformly high shearing stress in the metal fabric. This provides for uniform mixing of the reaction fluid and hence for a constant degree of dispersion of the reaction fluid as it passes through the reactor.

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Respectfully submitted,

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